

MassDEP

Private Well Guidelines

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MassDEP – Drinking Water Program

Topics Covered

- Background
- Revisions to Private Well Guidelines
- Revisions to Model Board of Health Regulations for Private Wells
- Availability of Drought Information for Private Well Owners

Changes to Private Well Guidelines

- Advisory Committee consisted of representatives of
 - MassDEP Drinking Water Program
 - MassDEP Bureau of Air and Waste
 - MassDEP Bureau of Waste Site Cleanup
 - EPA
 - MA Groundwater Association
 - MHOA
 - Franklin Regional Council of Governments
 - MA Plumbers Association
 - others

Changes to Private Well Guidelines

- Estimating household water needs
 - No longer uses Title 5 design rates
 - Based on ability of well to meet peak demand over 2 hours
 - New table uses # of bedrooms and bathrooms
 - Accounts for water storage in well

- Definitions edited to match Well Driller and Water Supply Regulations

- Length of pumping test reduced from 4 hours to 2 hours
 - Provided that the pumping level stabilized for the final 30 minutes of test

- No grouting of casing required for wells in highly pervious sand and gravel formations
 - Particularly applicable on Cape and Islands and portions of southeastern MA

- Allow use of large diameter gravel fill to decommission bedrock wells
 - Still requires that the well casing be grouted

- Reduce recommended water quality testing analytes
 - Annually test for:
 - Total Coliform Bacteria
 - Nitrate
 - Nitrite

- Reduce recommended water quality testing analytes
 - Initially and every 10 years test for:

arsenic

Radon-222

lead

VOCs

Manganese

Chloride

Copper

Hardness

Fluoride

Iron

Sodium

pH

Gross alpha

Note: if gross alpha ≥ 5 pCi/L test for radium 226 & 228

If gross alpha ≥ 15 pCi/L also test for uranium

- Reminder of known naturally occurring arsenic and uranium contamination in MA
 - The 2011 USGS report on arsenic and uranium occurrence in private bedrock wells in MA estimated the following for the study area <https://pubs.usgs.gov/sir/2011/5013/>
 - Contaminated residential wells being used without treatment:
 - 3,800 out of 5,700 wells that exceed the arsenic standard
 - 3,000 out of 3,300 wells that exceed the uranium standard
 - At 10 ppb, the estimated overall lifetime risk of cancer is approximately 3 to 4 per 1,000 persons

- ...arsenic and uranium continued
 - Useful information regarding arsenic and uranium:
<http://www.mass.gov/eea/agencies/massdep/water/drinking/arsenic-uranium-bedrock-well-study-2.html>
 - Easy alternative way to find the link = select “U” after selecting MassDEP’s “A to Z Quick Links” tab

- Eliminate recommendation to perforate or remove casing upon well decommissioning

- Eliminate recommendation to use artesian well shutoff valve

- Reduce recommendation for well stickup to 12 inches
 - Or 2 feet above the highest recorded flood, whichever is greater

- Allow use of bentonite chips in grouting and sealing wells
 - If using this method, well driller must substantiate that the proper volume was used to fill the borehole

- Reduce borehole sampling intervals
 - Change made to be compatible with Well Completion Report requirements
 - Unconsolidated: every 20 feet or change in formation
 - Bedrock: every 100 feet or change in formation

- Eliminate recommendation for access ports for water level measurements or pressure gage fitting

- Allow for use of solvent cement for joining of thermoplastic pipe
 - proper procedure guidance is added

- No longer specify curing time for grout seals
 - Based upon improvements made to bentonite grout products

- Eliminate requirement for cleaning and disinfecting all drilling equipment between drilling each new well
 - No indication that cross contamination has been a problem
 - Would add an estimated \$1,000+ to costs

- Change the recommendation that well screens are necessary for “all” wells completed in unconsolidated formations to “most” wells
 - Based upon well drilling experience in CT River Valley

Changes to Model BOH Regulations for Private Wells

- Match changes to Guidelines
- Remove requirement for notification to abutters
- Allow transfer of well construction permit within 1 year of issuance

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 - Change of well driller would require submittal of proof of certified Massachusetts Well Driller status

Drought Information

- EEA has created a webpage providing drought information for MA:
<http://www.mass.gov/eea/drought/>
- Includes information specific to private well owners

MassDEP Drinking Water Program UIC Program Information & Contact

Private Well information :

<http://www.mass.gov/eea/agencies/massdep/water/drinking/private-wells.html>

For private well and UIC registration questions:

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MassDEP Drinking Water Program Well Driller Program Information & Contact

<http://www.mass.gov/eea/agencies/massdep/water/drinking/well-drillers-program.html>

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